

Indo-US Workshop on Radiation Physics with Synchrotrons and Other New Sources

May 14-16, 2003

Argonne National Laboratory

Tuesday, May 13

17:00 Welcoming Reception: Argonne Guest House Restaurant

Wednesday, May 14 (Science sessions and lunches on 5th floor, Bldg 401)

08:00 Coffee & pastries

09:00 Welcome

Robert Logan, Deputy Laboratory Director, Argonne National Laboratory

J. Murray Gibson, Director, Advanced Photon Source, Argonne National Laboratory

Session I: Current Synchrotron Facilities: Science and Prospects

Chair: Dennis Mills

09:15 **Gopal Shenoy**, *Advanced Photon Source: Science Retrospect and Prospect*

10:00 Coffee Break

10:20 **R. V. Nandedkar**, *History, Present Status and Future Plans of Indian
Synchrotron Radiation Sources*

11:05 **Neville Smith**, *The ALS on Completion of its First Decade*

12:00 Lunch

Session II: Tutorials

Chair: Linda Young

13:00 **Richard Pratt**, *Fundamentals of Radiation Physics
Interactions of Photons with Matter*

13:45 **Todd Ditmire**, *Future Directions in High-Field and High Energy-Density
Science Using Intense, Ultrafast Lasers*

14:30 Coffee Break

15:00 **Sunil Sinha**, *Application of Synchrotron Radiation Techniques to Nanoscience*

16:00 Tour of Advanced Photon Source, meet in lobby of APS conference center

18:00 Dinner at Argonne Guest House

Thursday, May 15

08:00 Coffee and pastries

Session III: Photon Interactions with Isolated Atoms and Molecules

Chair: Bertold Krässig

09:00 **Pranawa Deshmukh**, *Some Recently Found Interchannel Coupling Effects in Atomic Photoionization Processes*

09:30 **Dennis Lindle**, *Large Nondipole Effects in Atomic and Molecular Photoemission*

10:00 Coffee Break

10:20 **Nora Berrah**, *Probing Dynamics from Within*

10:50 **Erwin Poliakoff**, *VUV Molecular Physics and Third (and Fourth) Generation Light Sources: Opportunities and Outlook*

11:20 **Steven Manson**, *Many-Body Effects and New Phenomena in Atomic and Molecular Photoionization*

12:00 Lunch

Session IV: Ultrafast Laser/X-Ray Interactions

Chair: David Ederer

13:00 **Stephen Southworth**, *Atomic Physics at the Advanced Photon Source*

13:30 **Rob Crowell**, *Ultrafast Processes in Radiation Chemistry*

Deepak Mathur, *Irradiation of Atomic and Molecular Clusters by Strong Optical Fields* (abstract only)

14:00 **David Reis**, *Ultrafast X-Ray Physics*

14:30 **Lin Chen**, *Excited State Molecular Structures in Solution Captured by Pump-probe XAFS*

G. Ravindra Kumar, *Dynamics of Intense, Femtosecond Laser-Matter Interactions* (abstract only)

15:00 Coffee Break

Chair: Todd Ditmire

15:30 **Lou DiMauro**, *Attosecond Light Pulses*

16:00 **Bernhard Adams**, *Diffraction Optics for Femtosecond Manipulation of X-Rays*

16:30 **Srinivas Krishnagopal**, *Free-Electron Lasers: Physics & Potential*

17:00 **David Moncton**, *The MIT X-Ray Laser Project*

18:00 Dinner at Argonne Guest House

Friday, May 16

08:00 Coffee and pastries

Session V: Nanoscience and Complex Systems

Chair: Carol Thompson

09:00 **Alika Khare**, *Application of Laser Matter Interaction for Generation of Small Sized Materials*

09:30 **Franz Himpel**, *Self-Assembly and Electronic Structure of Low-Dimensional Systems*

10:00 Coffee Break

10:30 **Bhupendra Dev**, *Synchrotron X-Radiation in Studies of Layered and Self-Assembled Structures*

11:00 **Ajay Sood**, *Carbon Nanotubes: Novel Effects of Pressure, Electrochemical Bias and Flow*

11:30 **Milan Sanyal**, *Growth Mechanism and Thermal Properties of Thin Organic Films*

12:00 Lunch

Chair: Suprakash Roy

13:00 **Sushanta Dattagupta**, *Synchrotron Radiation Based Perturbed Angular Correlation – An Application to Soft Condensed Matter Physics*

13:30 **Paul Bergstrom**, *Photon-Atom Interactions and Their Applications*

14:00 **Nirmal Singh**, *Photon-Atom Interactions in the X-Ray Energy Region*
(abstract only)

14:30 Round Table Discussion –
How to obtain joint grants for research between India & US